

**96.** A method for manufacturing a magnetoresistive-effect device according to claim 89, wherein said antiferromagnetic layer is made of a PtMn alloy.

**97.** A method for manufacturing a magnetoresistive-effect device according to claim 89, wherein said antiferromagnetic layer is made of an X—Mn alloy where X is a material selected from the group consisting of Pd, Ir, Rh, Ru, and alloys thereof.

**98.** A method for manufacturing a magnetoresistive-effect device according to claim 89, wherein said antiferromagnetic material is made of a Pt—Mn—X' alloy where X' is a material selected from the group consisting of Pd, Ir, Rh, Ru, Au, Ag, and alloys thereof.

**99.** A method for manufacturing a magnetoresistive-effect device comprising the steps of:

laminating, on a substrate, a multilayer film for exhibiting the magnetoresistive effect;

depositing an insulator layer on said multilayer film;

depositing, on said insulator layer in a sensitive region of said multilayer film, a lift-off resist layer having an undercut on the underside thereof facing insensitive regions of said multilayer film, wherein said sensitive region and said insensitive regions are beforehand measured through a micro track profile method;

removing said insulator layer deep to said undercut formed on the underside of said resist layer, through etching;

depositing bias layers on both sides of said multilayer film and magnetizing said bias layers in the direction of a track width;

depositing an electrode layer on the said bias layer at a slant angle with respect to said multilayer film, wherein said electrode layer is deposited on and in direct contact with an end face of said insulator layer, which is the underlayer beneath said resist layer, or is formed to be separated from the end face of said insulator layer by a layer; and

removing said resist layer from said insulator layer.

**100.** A method for manufacturing a magnetoresistive-effect device according to claim 99, comprising depositing a protective layer as a top layer on said multilayer film in the step of laminating, on the substrate, said multilayer film for exhibiting the magnetoresistive effect; and removing the area of said protective layer not covered with said insulator layer to expose the underlayer beneath said protective layer, subsequent to the removing step of removing said insulator layer deep to said undercut formed on the underside of said resist layer, through etching.

**101.** A method for manufacturing a magnetoresistive-effect device according to claim 99, wherein in the step of depositing said electrode layer, the angle made between the surface of said protective layer or the surface of said multilayer film with said protective layer removed therefrom and the end face of said electrode layer extending over said insensitive region of said multilayer film is 60 degrees or greater.

**102.** A method for manufacturing a magnetoresistive-effect device according to claim 99, wherein in the step of depositing said electrode layer, the angle made between the surface of said protective layer or the surface of said multilayer film with said protective layer removed therefrom

and the end face of said electrode layer extending over said insensitive region of said multilayer film is 90 degrees or greater.

**103.** A method for manufacturing a magnetoresistive-effect device according to claim 99, wherein said sensitive region of said multilayer film, measured through a micro track profile method, is defined as a region which results in an output equal to or greater than 50% of a maximum reproduction output while said insensitive regions of said multilayer film are defined as regions, formed on both sides of said sensitive region, which result in an output smaller than 50% of the maximum reproduction output, when a magnetoresistive-effect device having the electrode layers deposited on hard bias layers and not extending over said multilayer film scans a micro track, having a signal recorded thereon, in the direction of a track width.

**104.** A method for manufacturing a magnetoresistive-effect device according to claim 99, wherein said bias layers are deposited on both sides of said multilayer film through at least one sputtering technique selected from an ion-beam sputtering method, a long-throw sputtering method, and a collimation sputtering method, with said substrate having said multilayer film thereon, placed normal to a target made of a composition of said bias layer; and

said electrode layer is deposited on said bias layer into an undercut formed in the underside of said resist layer arranged on said multilayer film, through at least one sputtering technique selected from an ion beam sputtering method, a long-throw sputtering method, and a collimation sputtering method, with said substrate having said multilayer film thereon, placed slightly oblique to a target made of a composition of said electrode layer, or with the target placed slightly oblique to the substrate.

**105.** A method for manufacturing a magnetoresistive-effect device according to claim 99, wherein said multilayer film comprises an antiferromagnetic layer, a pinned magnetic layer, a nonmagnetic electrically conductive layer, and a free magnetic layer, or said multilayer film comprises a free magnetic layer, nonmagnetic electrically conductive layers respectively lying over and under said free magnetic layer, pinned magnetic layer respectively lying over said one nonmagnetic electrically conductive layer and under said other nonmagnetic electrically conductive layer, and antiferromagnetic layers respectively lying over said one pinned magnetic layer and under said other pinned magnetic layer, or said multilayer film comprises a magnetoresistive-effect layer, a soft magnetic layer, and a nonmagnetic layer wherein said magnetoresistive-effect layer and said soft magnetic layer are laminated with said nonmagnetic layer interposed therebetween.

**106.** A method for manufacturing a magnetoresistive-effect device according to claim 99, wherein said multilayer film comprises at least one of each of an antiferromagnetic layer, a pinned magnetic layer, a nonmagnetic electrically conductive layer, and a free magnetic layer, or said multilayer film comprises a free magnetic layer, nonmagnetic electrically conductive layers respectively lying over and under said free magnetic layer, pinned magnetic layers respectively lying over said one nonmagnetic electrically conductive layer and under said other nonmagnetic electrically conductive layer, and antiferromagnetic layers respectively lying over said one pinned magnetic layer and under said other pinned magnetic layer, or said multilayer film